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1995

Nebraska Summary: S197 Massey Ferguson 8120

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SUMMARY OF OECD TESTS 1599/2 & 1582/2—NEBRASKA SUMMARY 197

MASSEY FERGUSON 8120 DYNASHIFT DIESEL

32 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed (PTO speed—1052 rpm)					
128.1 (95.5)	2200	7.58 (28.69)	0.423 (0.258)	16.83 (3.32)	
Maximum Power (2 hours)					
130.6 (97.4)	2102	7.48 (28.31)	0.408 (0.248)	17.46 (3.44)	
Standard Power Take-off speed (1001 rpm)					
130.5 (97.3)	2093	7.45 (28.22)	0.408 (0.248)	17.46 (3.44)	

VARYING POWER AND FUEL CONSUMPTION

128.1 (95.5)	2200	7.58 (28.69)	0.423 (0.258)	16.83 (3.32)	Air temperature
109.7 (81.8)	2223	6.83 (25.87)	0.444 (0.270)	16.04 (3.16)	70°F (21°C)
83.1 (62.0)	2241	5.68 (21.49)	0.487 (0.296)	14.62 (2.88)	Relative humidity
55.8 (41.6)	2255	4.54 (17.19)	0.579 (0.352)	12.28 (2.42)	58%
28.3 (21.1)	2265	3.37 (12.76)	0.850 (0.517)	8.38 (1.65)	Barometer
—	2279	2.09 (7.93)	—	—	29.9"Hg (101.2 kPa)

Maximum Torque 405.7 lb.-ft. (550.1 Nm) at 1584 rpm
Maximum Torque Rise 32.7%
Torque rise at 1770 engine rpm 25%

DRAWBAR PERFORMANCE

(UNBALLASTED—2WD)

FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—22nd (2LB) Gear									
115.1 (85.8)	5730 (25.5)	7.53 (12.12)	1861	6	0.441 (0.268)	16.14 (3.18)	181 (83)	64 (18)	29.7 (100.7)
75% of Pull at Maximum Power—22nd (2LB) Gear									
82.6 (61.6)	3370 (15.0)	9.19 (14.78)	2225	4	0.536 (0.326)	13.27 (2.61)	185 (85)	64 (18)	29.7 (100.7)
50% of Pull at Maximum Power—22nd (2LB) Gear									
56.6 (42.2)	2270 (10.1)	9.35 (15.05)	2241	3	0.638 (0.388)	11.17 (2.20)	183 (84)	64 (18)	29.7 (100.7)
75% of Pull at Reduced Engine Speed—23rd (2LC) Gear									
82.3 (61.4)	3360 (15.0)	9.18 (14.78)	1880	4	0.492 (0.299)	14.49 (2.86)	185 (85)	64 (18)	29.7 (100.7)
50% of Pull at Reduced Engine Speed—23rd (2LC) Gear									
57.1 (42.6)	2280 (10.1)	9.39 (15.11)	1911	4	0.567 (0.345)	12.54 (2.47)	181 (83)	64 (18)	29.7 (100.7)

Location of Test: Groupement D'Antony, Parc de tourvoie, BP 121 92185 Antony, France

Dates of Test: February-July, 1995

Sound tests: July, 1996

Manufacturer: MASSEY FERGUSON S.A., BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

FUEL and OIL: Fuel No. 2 Diesel Cetane No. NA Specific gravity converted to 60°/60° F (15°/15°C) 0.855 Fuel weight 7.13 lbs/gal (0.853 kg/l) Oil SAE 10W40 Oil consumption for 10 hours NA Transmission and hydraulic lubricant B.P. Terrac Manager SAE 10W30 API GL-4 Front axle lubricant B.P. Terrac Manager SAE 10W30 API GL-4.

ENGINE: Make Perkins Diesel Type four cylinder vertical with turbocharger Serial No. U 592595Y Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 3.937" × 5.00" (100 mm × 127 mm) Compression ratio 16.0 to 1 Displacement 365 cu in (5985 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements and aspirator Oil filter two full flow cartridges Oil cooler engine coolant heat exchanger for crankcase oil, radiator for transmission and hydraulic fluid Fuel filter two paper elements Muffler underhood Exhaust vertical Cooling medium temperature control thermostat and variable speed fan.

CHASSIS: Type 2WD and FWA Serial No. C272018 Tread width rear 62.5" (1588 mm) to 77.2" (1960 mm) front 2WD - 60.7" (1543 mm) to 91.9" (2333 mm) FWA - 66.4" (1686 mm) to 81.1" (2060 mm) Wheel base 109.1" (2770 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (4) range operator controlled powershift Nominal travel speeds mph (km/h) first 1.32 (2.13) second 1.55 (2.49) third 1.83 (2.94) fourth 2.01 (3.23) fifth 2.14 (3.44) sixth 2.35 (3.78) seventh 2.77 (4.46) eighth 2.86 (4.61) ninth 3.24 (5.22) tenth 3.35 (5.39) eleventh 3.90 (6.27) twelfth 3.96 (6.37) thirteenth 4.56 (7.34) fourteenth 4.63 (7.45) fifteenth 5.14 (8.27) sixteenth 5.38 (8.66) seventeenth 6.01 (9.67) eighteenth 6.30 (10.14) nineteenth 7.10 (11.42) twentieth 7.79 (12.54) twenty-first 8.30 (13.36) twenty-second 9.12 (14.68) twenty-third 10.77 (17.33) twenty-fourth 11.14 (17.92) twenty-fifth 12.60 (20.28) twenty-sixth 13.03 (20.97) twenty-seventh 15.16 (24.39) twenty-eighth 15.39 (24.76) twenty-ninth 17.74 (28.55) thirtieth 18.01 (28.98) thirty-first 21.98 (35.38) thirty-second 25.73 (41.41) reverse 1.22 (1.96), 1.42 (2.29), 1.68 (2.70), 1.85 (2.97), 2.14 (3.44), 2.16 (3.48), 2.55 (4.10), 2.63 (4.24), 2.98 (4.80), 3.09 (4.97), 3.59 (5.77), 3.64 (5.86), 4.20 (6.76), 4.26 (6.86), 4.72 (7.61), 4.96 (7.98), 5.54 (8.91), 5.80 (9.34), 6.53 (10.51), 7.18 (11.55), 7.64 (12.30), 8.40 (13.52), 9.91

DRAWBAR PERFORMANCE
(UNBALLASTED—2WD)
MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
9th (2TD) Gear									
83.0 (61.9)	10725 (47.7)	2.90 (4.67)	2224	15	0.569 (0.346)	12.51 (2.46)	183 (84)	64 (18)	29.7 (100.7)
10th (3TB) Gear									
82.2 (61.3)	10070 (44.8)	3.06 (4.93)	2226	13	0.552 (0.336)	12.89 (2.54)	180 (82)	64 (18)	29.7 (100.7)
11th (4TA) Gear									
95.3 (71.1)	9935 (44.2)	3.60 (5.79)	2216	12	0.534 (0.325)	13.32 (2.63)	189 (87)	64 (18)	29.7 (100.7)
12th (3TC) Gear									
97.0 (72.3)	9980 (44.4)	3.64 (5.86)	2210	12	0.536 (0.326)	13.29 (2.62)	189 (87)	64 (18)	29.7 (100.7)
13th (4TB) Gear									
106.5 (79.4)	9710 (43.2)	4.11 (6.62)	2160	12	0.508 (0.309)	14.01 (2.76)	189 (87)	64 (18)	29.7 (100.7)
14th (3TD) Gear									
106.3 (79.3)	9485 (42.2)	4.20 (6.76)	2147	11	0.510 (0.310)	13.96 (2.75)	189 (87)	64 (18)	29.7 (100.7)
15th (1LA) Gear									
112.4 (83.8)	9240 (41.1)	4.56 (7.34)	2094	10	0.478 (0.291)	14.87 (2.93)	187 (86)	64 (18)	29.7 (100.7)
16th (4TC) Gear									
109.6 (81.7)	8530 (37.9)	4.82 (7.75)	2071	8	0.483 (0.294)	14.72 (2.90)	185 (85)	64 (18)	29.7 (100.7)
17th (1LB) Gear									
112.5 (83.9)	7755 (34.5)	5.44 (8.75)	2067	7	0.477 (0.290)	14.92 (2.94)	180 (82)	64 (18)	29.7 (100.7)
18th (4TD) Gear									
107.8 (80.4)	7360 (32.7)	5.49 (8.84)	1993	7	0.475 (0.289)	14.97 (2.95)	185 (85)	64 (18)	29.7 (100.7)
19th (1LC) Gear									
113.7 (84.8)	6995 (31.1)	6.10 (9.81)	1959	7	0.452 (0.275)	15.74 (3.10)	185 (85)	64 (18)	29.7 (100.7)
20th (2LA) Gear									
114.3 (85.2)	6435 (28.6)	6.66 (10.72)	1942	7	0.446 (0.271)	15.96 (3.14)	187 (86)	64 (18)	29.7 (100.7)
21st (1LD) Gear									
114.8 (85.6)	6215 (27.6)	6.93 (11.15)	1889	6	0.442 (0.269)	16.09 (3.17)	189 (87)	64 (18)	29.7 (100.7)
22nd (2LB) Gear									
115.1 (85.8)	5730 (25.5)	7.53 (12.12)	1861	6	0.441 (0.268)	16.14 (3.18)	181 (83)	64 (18)	29.7 (100.7)
23rd (2LC) Gear									
113.3 (84.5)	4920 (21.9)	8.64 (13.90)	1788	5	0.444 (0.270)	16.04 (3.16)	189 (87)	64 (18)	29.7 (100.7)
24th (3LA) Gear									
113.3 (84.5)	4850 (21.6)	8.76 (14.10)	1759	5	0.434 (0.264)	16.40 (3.23)	190 (88)	64 (18)	29.7 (100.7)

TRACTOR SOUND LEVEL WITH CAB	2WD dB(A)	4WD dB(A)
Maximum sound level	79.0	79.0
Bystander	—	—

TIRES, BALLAST AND WEIGHT

Rear Tires—No., size, ply & psi (kPa)
Ballast—Liquid (total)
 —Cast Iron (total)
Front Tires—No., size, ply & psi (kPa)
Ballast—Liquid (total)
 —Cast Iron (total)

Height of Drawbar

Static Weight with Operator—Rear
 —Front
 —Total

Front Wheel Assist

Without Ballast

Two 580/70R38; **, 15 (100)
 None
 None
 Two 480/70R28; **, 17 (120)
 None
 None
 21.3 in (540 mm)
 8630 lb (3915 kg)
 5335 lb (2420 kg)
 13965 lb (6335 kg)

2WD

Without Ballast

Two 580/70R38; **, 15 (100)
 None
 None
 Two 11.00-16; 8; 36 (250)
 None
 None
 37.8 in (960 mm)
 8530 lb (3870 kg)
 4070 lb (1845 kg)
 12600 lb (5715 kg)

(15.95), 10.25 (16.50), 11.60 (18.67), 12.00 (19.31), 13.95 (22.45), 14.16 (22.79), 17.57 (28.28), 16.52 (26.58), 19.28 (31.02), 22.56 (36.31) **Clutch** wet multiple disc operated by foot pedal **Brakes** single wet disc hydraulically actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1993 engine rpm and 1000 rpm at 2091 engine rpm **Unladen tractor mass** 2 WD - 12434 lb (5640 kg), FWA - 13800 lb (6260 kg).

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The performance figures on this summary were taken from a test conducted under the OECD Code II Restricted Standard Test Code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **1599/2** and **1582/2**, Nebraska Summary 197, June 2, 1997.

LOUIS I. LEVITICUS

Engineer-in-Charge

L. L. BASHFORD

R. D. GRISSO

M. F. KOCHER

Board of Tractor Test Engineers

The following data apply to the tractor equipped with a Front Drive Axle.

DRAWBAR PERFORMANCE **(UNBALLASTED—FRONT DRIVE ENGAGED)**

FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—17th (1LB) Gear									
112.4 (83.8)	7670 (34.1)	5.50 (8.84)	2048	5	0.470 (0.286)	15.13 (2.98)	187 (86)	54 (12)	30.1 (102.0)
75% of Pull at Maximum Power—17th (1LB) Gear									
81.0 (60.4)	4985 (22.2)	6.09 (9.80)	2221	3	0.547 (0.333)	12.99 (2.56)	185 (85)	54 (12)	30.1 (102.0)
50% of Pull at Maximum Power—17th (1LB) Gear									
55.1 (41.1)	3325 (14.8)	6.21 (10.00)	2235	2	0.653 (0.397)	10.91 (2.15)	181 (83)	54 (12)	30.1 (102.0)
75% of Pull at Reduced Engine Speed—19th (1LC) Gear									
81.0 (60.4)	4985 (22.2)	6.09 (9.81)	1881	3	0.496 (0.302)	14.34 (2.83)	183 (84)	54 (12)	30.1 (102.0)
50% of Pull at Reduced Engine Speed—19th (1LC) Gear									
55.0 (41.0)	3325 (14.8)	6.20 (9.97)	1888	2	0.580 (0.353)	12.25 (2.42)	181 (83)	54 (12)	30.1 (102.0)

MAXIMUM POWER IN SELECTED GEARS

8th (3TA) Gear									
85.3 (63.6)	12275 (54.6)	2.61 (4.19)	2225	13	0.556 (0.338)	12.82 (2.53)	185 (85)	54 (12)	30.1 (102.0)
9th (2TD) Gear									
94.4 (70.4)	11960 (53.2)	2.96 (4.76)	2212	13	0.544 (0.331)	13.10 (2.58)	178 (81)	54 (12)	30.1 (102.0)
10th (3TB) Gear									
97.2 (72.5)	11910 (53.0)	3.06 (4.93)	2203	12	0.534 (0.325)	13.32 (2.62)	176 (80)	54 (12)	30.1 (102.0)
11th (4TA) Gear									
108.4 (80.8)	11385 (50.6)	3.57 (5.74)	2159	10	0.500 (0.304)	14.24 (2.80)	183 (84)	54 (12)	30.1 (102.0)
12th (3TC) Gear									
107.7 (80.3)	11105 (49.4)	3.64 (5.85)	2141	9	0.503 (0.306)	14.16 (2.79)	181 (83)	54 (12)	30.1 (102.0)
13th (4TB) Gear									
110.1 (82.1)	9855 (43.8)	4.19 (6.74)	2107	8	0.484 (0.295)	14.70 (2.90)	181 (83)	54 (12)	30.1 (102.0)
14th (3TD) Gear									
110.0 (82.0)	9735 (43.3)	4.24 (6.82)	2095	8	0.487 (0.296)	14.62 (2.88)	183 (84)	54 (12)	30.1 (102.0)
15th (1LA) Gear									
112.1 (83.6)	8880 (39.5)	4.73 (7.62)	2091	6	0.472 (0.287)	15.08 (2.97)	185 (85)	54 (12)	30.1 (102.0)
16th (4TC) Gear									
108.6 (81.0)	8255 (36.7)	4.93 (7.94)	2065	6	0.485 (0.295)	14.67 (2.89)	185 (85)	54 (12)	30.1 (102.0)
17th (1LB) Gear									
112.4 (83.8)	7670 (34.1)	5.50 (8.84)	2048	5	0.470 (0.286)	15.13 (2.98)	187 (86)	54 (12)	30.1 (102.0)
18th (4TD) Gear									
106.0 (79.0)	7140 (31.8)	5.57 (8.96)	1969	5	0.488 (0.297)	14.57 (2.87)	185 (85)	54 (12)	30.1 (102.0)
19th (1LC) Gear									
111.6 (83.2)	6675 (29.7)	6.27 (10.08)	1959	4	0.464 (0.282)	15.35 (3.02)	185 (85)	54 (12)	30.1 (102.0)
20th (2LA) Gear									
109.4 (81.6)	5965 (26.5)	6.88 (11.07)	1947	4	0.472 (0.287)	15.10 (2.98)	189 (87)	54 (12)	30.1 (102.0)
21st (1LD) Gear									
109.7 (81.8)	5830 (25.9)	7.06 (11.36)	1873	4	0.461 (0.281)	15.43 (3.04)	190 (88)	54 (12)	30.1 (102.0)
22nd (2LB) Gear									
108.0 (80.5)	5170 (23.0)	7.83 (12.60)	1885	3	0.475 (0.289)	14.97 (2.95)	181 (83)	54 (12)	30.1 (102.0)
23rd (2LC) Gear									
106.6 (79.5)	4600 (20.5)	8.69 (14.00)	1760	3	0.462 (0.281)	15.41 (3.03)	189 (87)	54 (120)	30.1 (102.0)
24th (3LA) Gear									
107.1 (79.9)	4525 (20.1)	8.88 (14.29)	1743	3	0.461 (0.281)	15.43 (3.04)	187 (86)	54 (12)	30.1 (102.0)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range:

11060 lbs (49.2 kN)

i) Opening pressure of relief valve:

NA

Sustained pressure of the open relief valve:

2750 psi (190 bar)

ii) Pump delivery rate at minimum pressure:

31.3 GPM (118.5 l/min)

iii) Pump delivery rate at maximum

hydraulic power:

25.3 GPM (95.7 l/min)

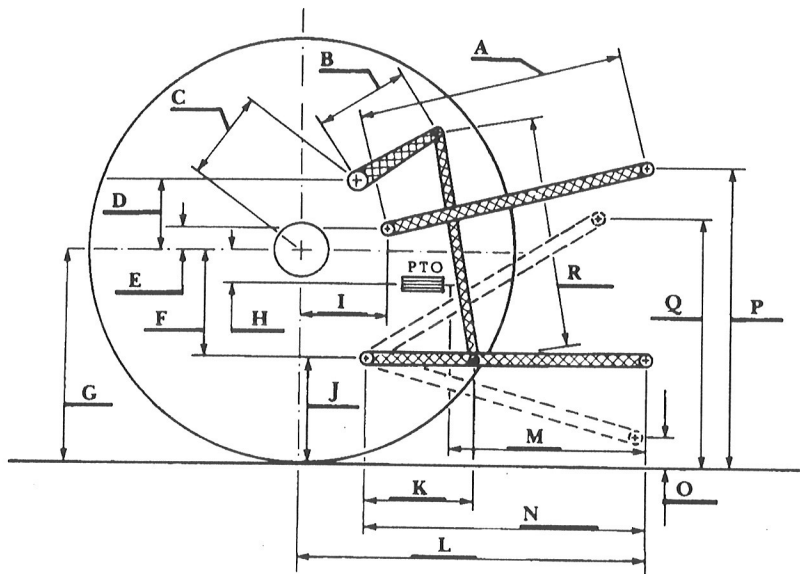
Delivery pressure:

2320 psi (160 bar)

Power:

34.2 HP (25.5 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	31.1	790
B	14.3	362
C	18.5	470
D	17.0	432
E	7.0	179
F	11.8	300
G	33.7	855
H	3.0	76
I	16.9	428
J	21.9	555
K	21.6	548
L	47.2	1199
M	27.6	700
N	38.4	975
O	7.8	198
P	45.9	1165
Q	33.7	857
R	32.7	830